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Stone et al.

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[54] **NON-DIRECTIONAL PAPERBOARD POUR SPOUT**

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[73] Assignee: **Tenneco Packaging**, Evanston, Ill.

[21] Appl. No.: **837,601**

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[51] **Int. Cl.**[6] **B65D 5/74**

[52] **U.S. Cl.** **229/215**; 229/207; 229/221; 493/69; 493/79; 493/128

[58] **Field of Search** 229/125, 42, 160.2, 229/207, 215, 221; 222/541.5, 541.6, 541.9, 528, 535; 493/69, 70, 79, 80, 128, 151

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Attorney, Agent, or Firm—Arnold, White & Durkee

[57] **ABSTRACT**

A paperboard container composed of a unitary, continuous blank comprises opposing top and bottom walls, a plurality of side walls bridging the top and bottom walls, and a paperboard pour spout closure. The plurality of side walls includes a first side wall, and an top minor flap extends from an upper end of the first side wall and forms a portion of the top wall. A backboard is coupled to the top minor flap and includes a plug. The inner surface of the backboard is adhered to the inner surface of the first side wall. A closure layer is formed in the first side wall and is adhered to the plug. The closure layer and the plug form the pour spout closure. The pour spout closure is pivotally coupled to the first side wall for movement between closed and open positions. The plug is detachably linked to a remainder of the backboard. The plug is linked to the backboard when the pour spout closure is initially in the closed position. The plug is detached from the remainder of the backboard and leaves behind a hole in response to opening the pour spout closure. The plug is inserted into the hole in response to reclosing the pour spout closure. The first side wall forms at least one prong adjacent to the closure layer. The prong engages the plug in response to closing the pour spout closure.

26 Claims, 8 Drawing Sheets

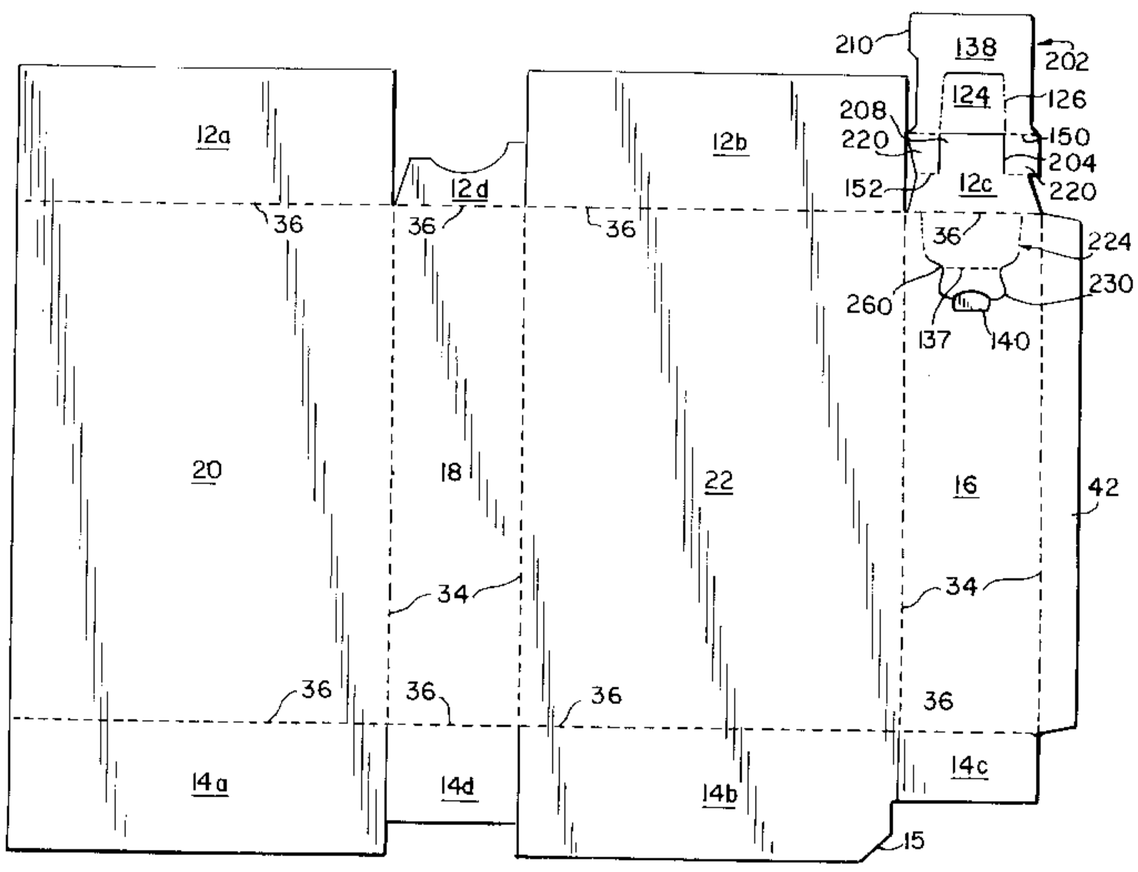


FIG. 1

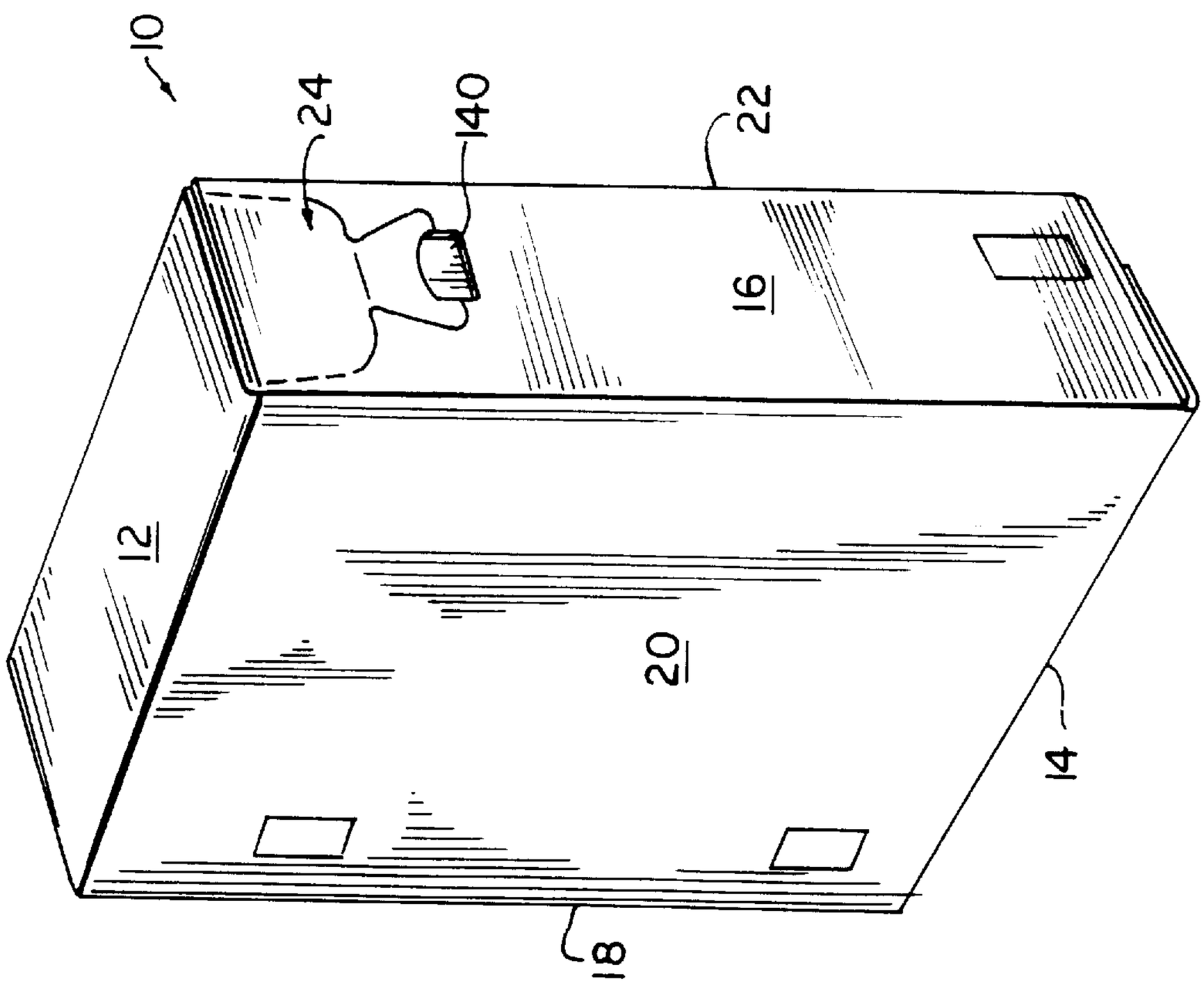
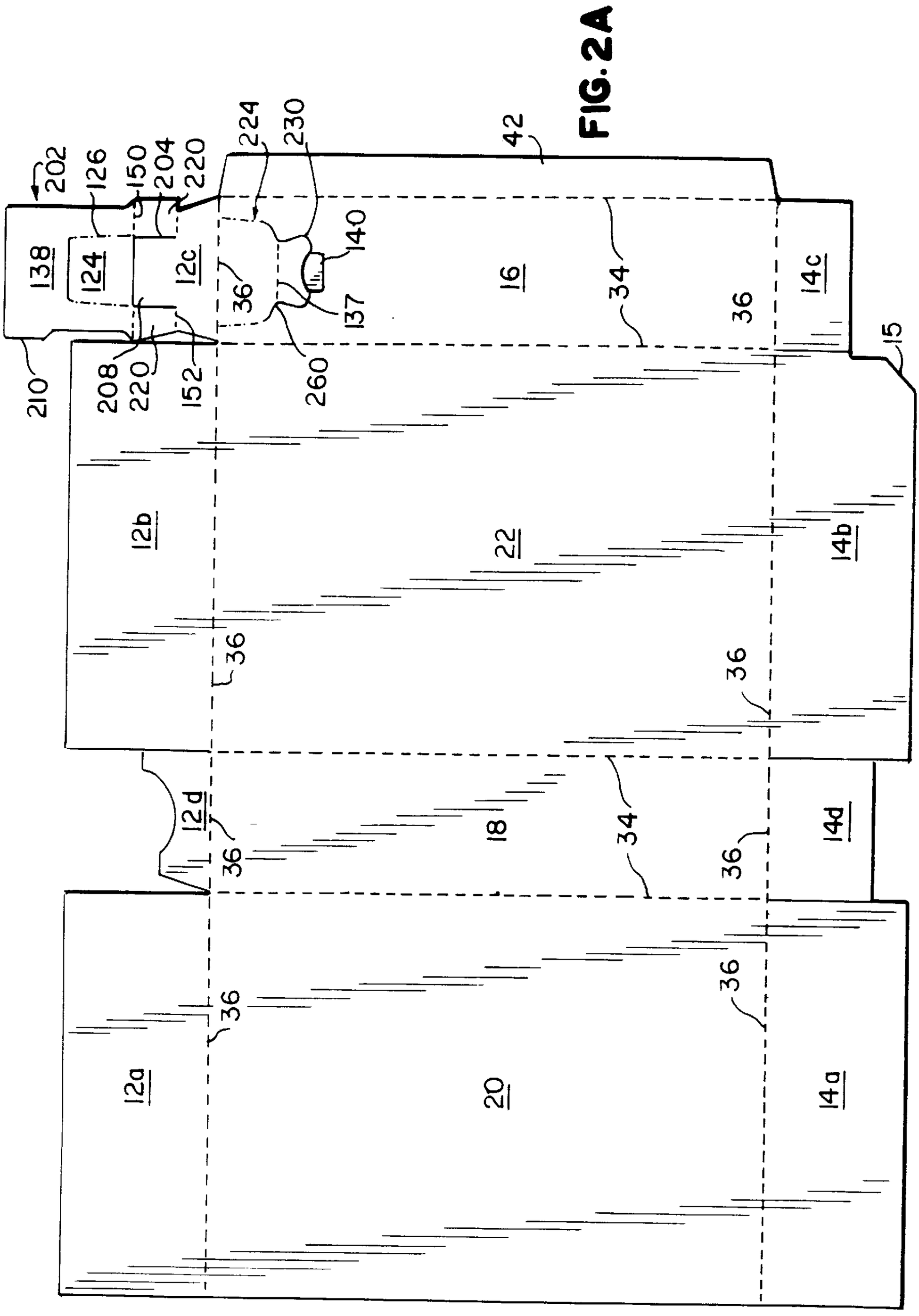


FIG.2A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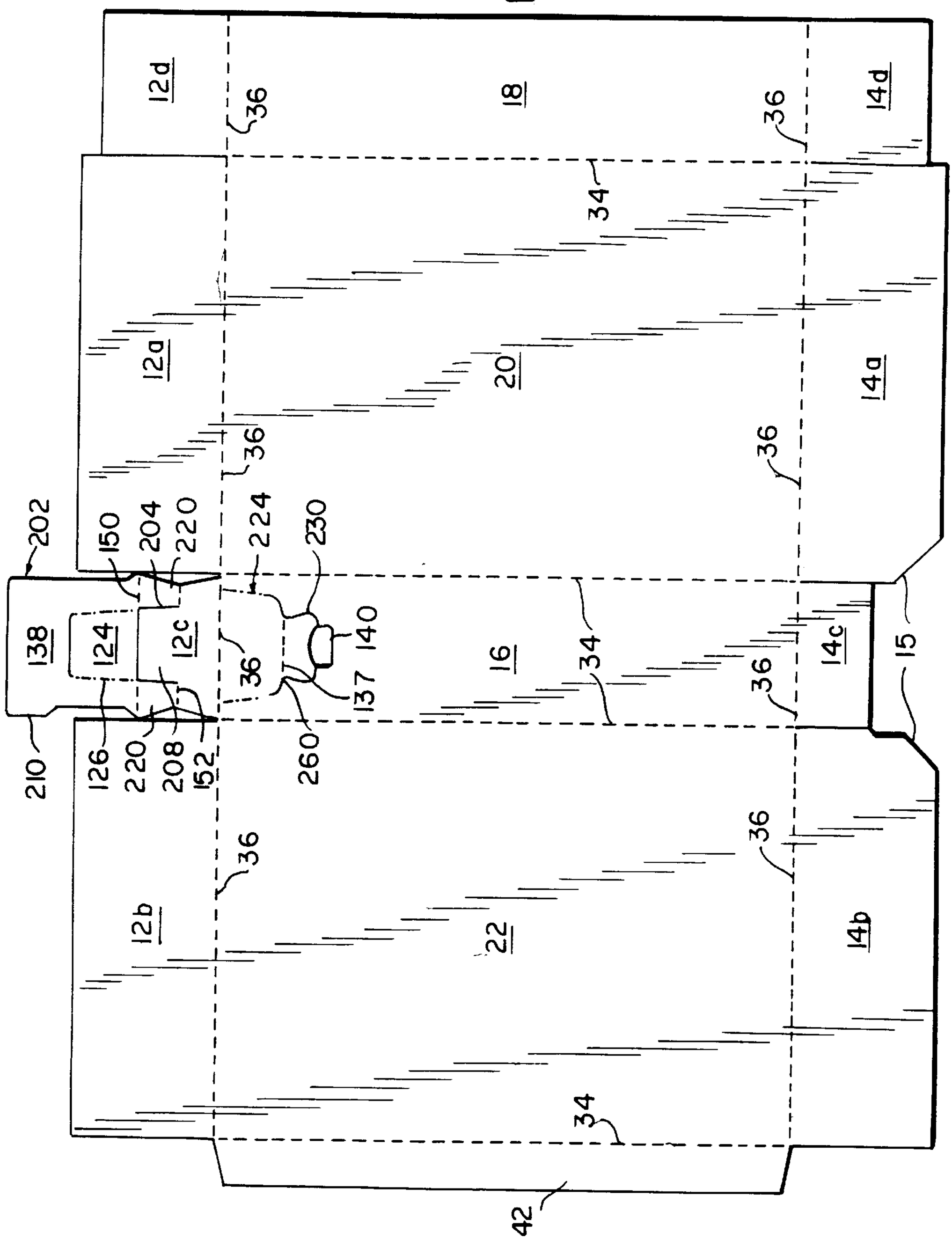
126
150
204
220
224
230
42
138
124
12c
40
36
137
16
34
36
14c
15
210
208
220
152
260
12b
22
14b
36
36
12d
18
34
36
14d
36
36
12a
20
14a

FIG. 2B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18
36
14d
34
12a
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14a
36
36
202
150
204
220
224
230
138
124
12c
140
36
137
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15
210
126
220
208
152
260
36
36
12b
22
14b
34
42

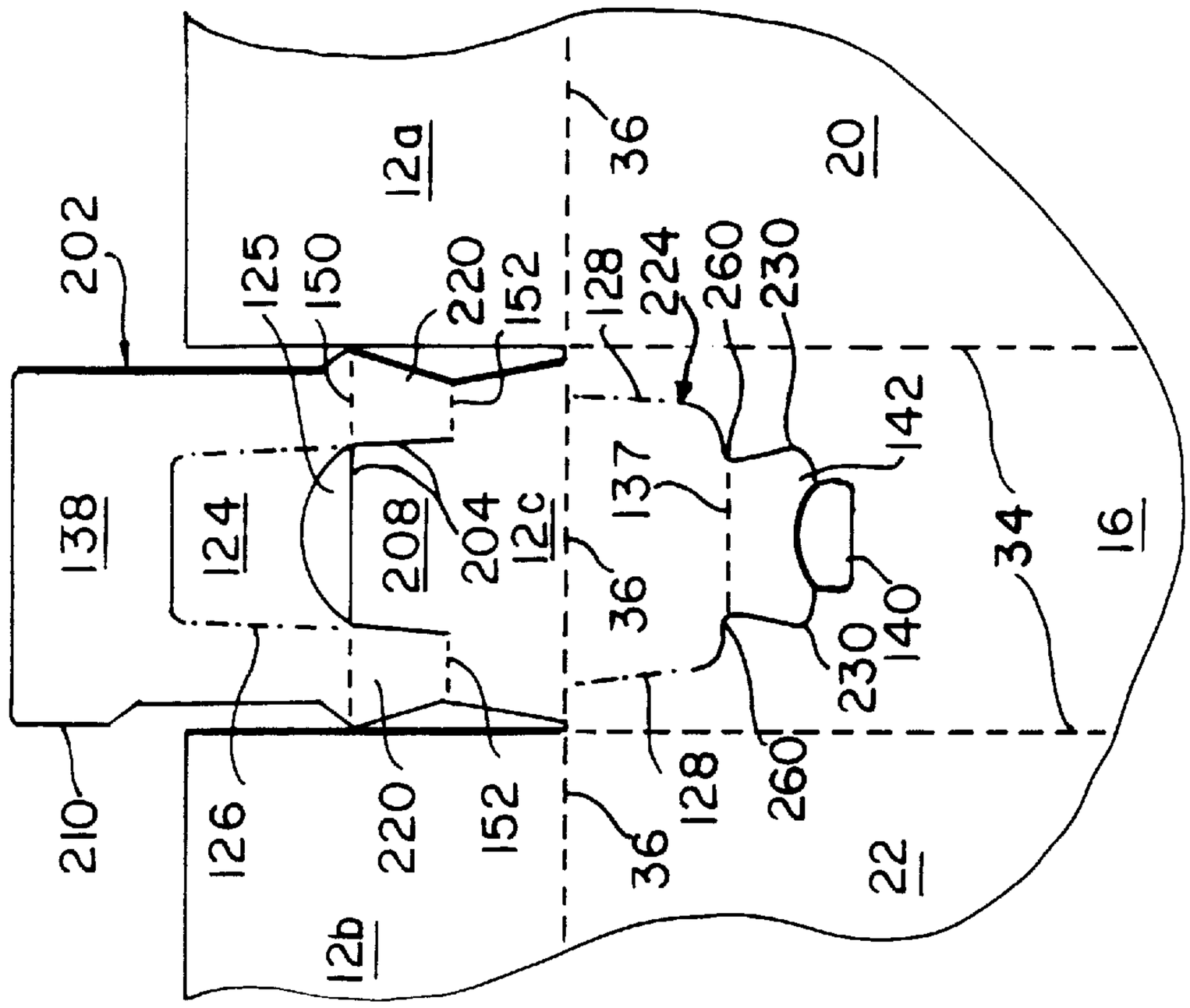
202
125
150
220
152
128
224
260
230
142
12a
36
20
138
124
208
204
12c
137
36
230
140
34
16
210
126
220
152
36
128
260
22
12b

FIG. 3B

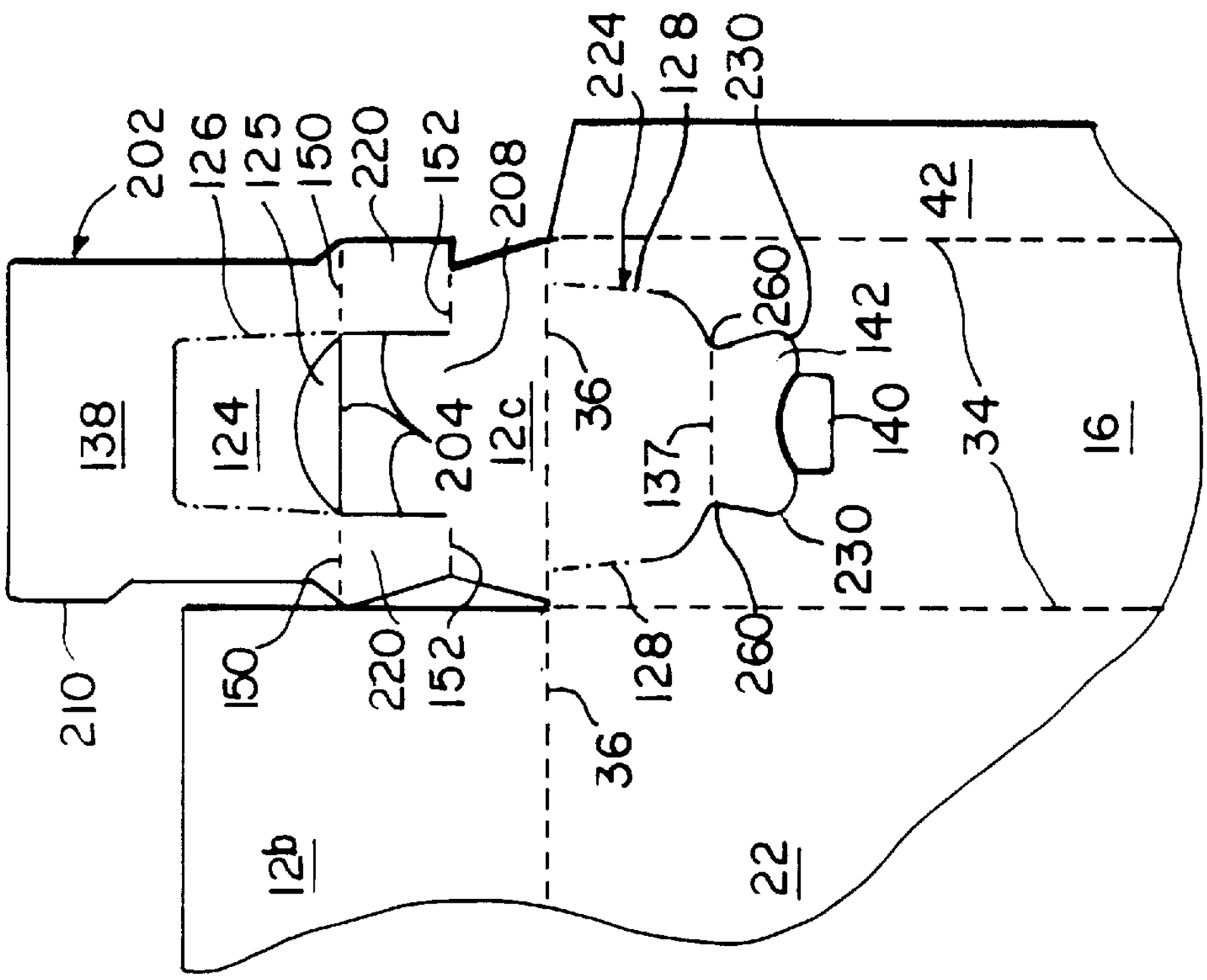
202
126
125
150
220
152
208
224
128
230
42
260
142
138
124
204
12c
36
137
140
34
16
230
210
150
220
152
128
260
36
12b
22

FIG. 3A

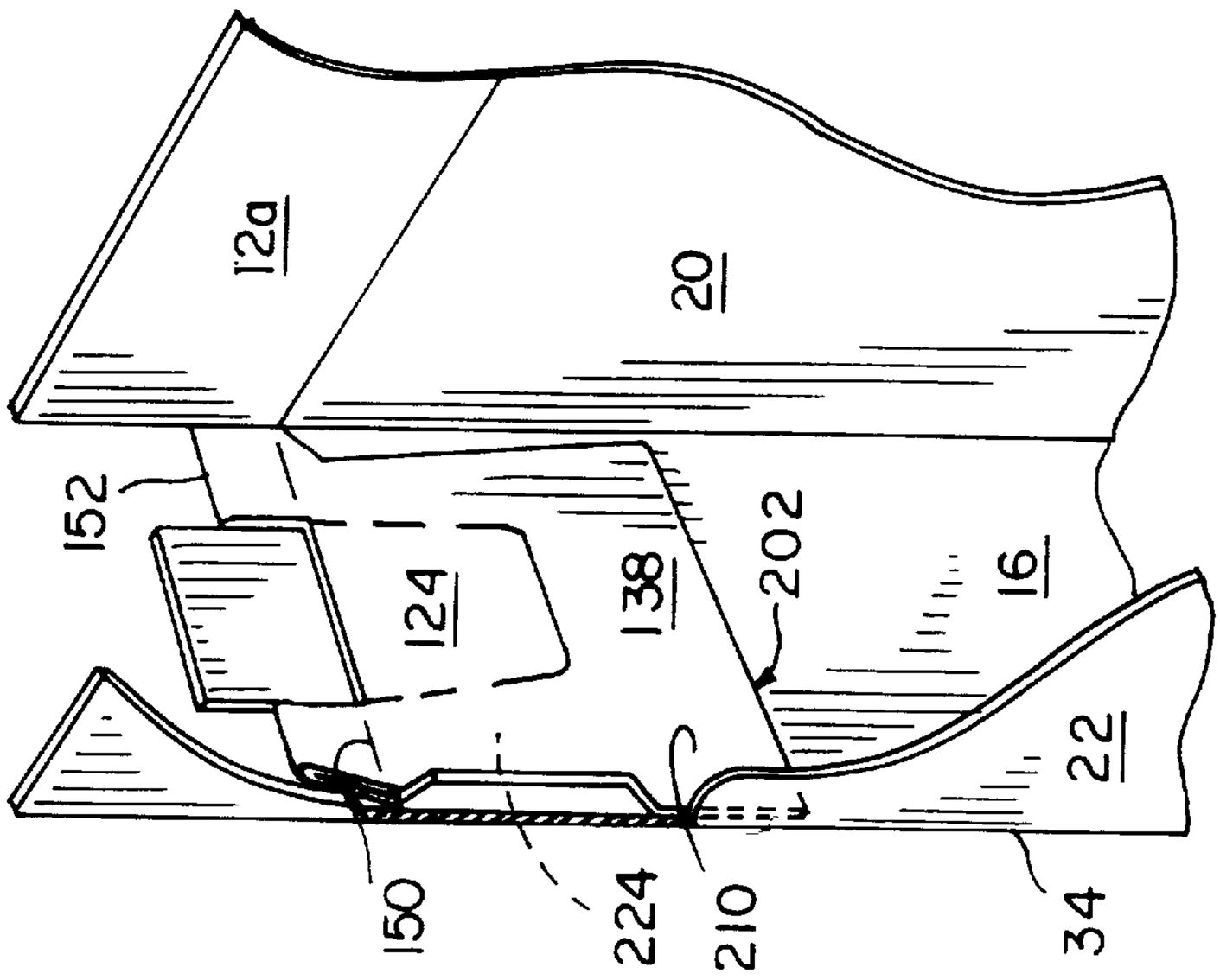
12a
20
152
124
138
202
16
22
150
224
210
34

FIG. 4B

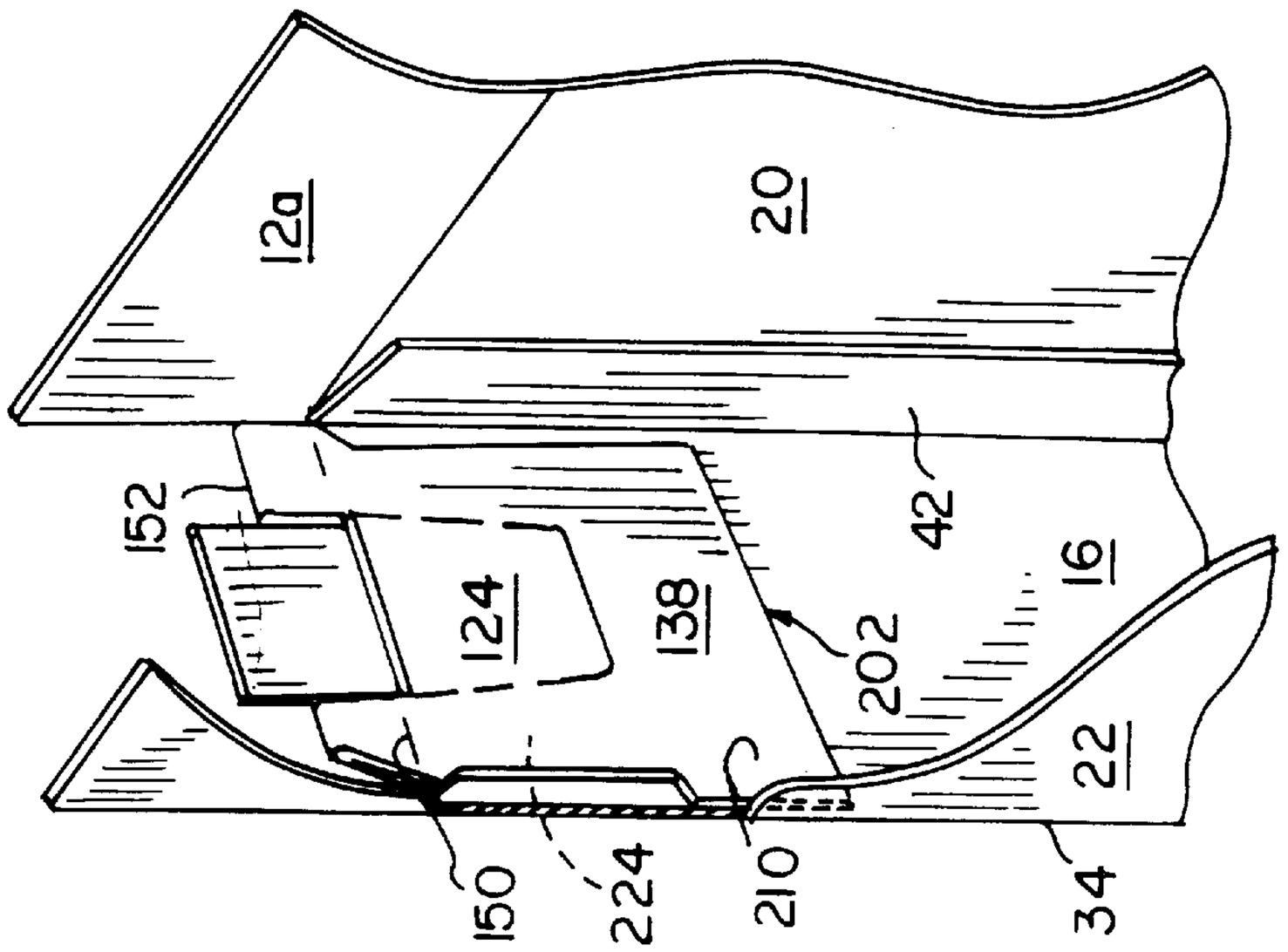
12a
20
152
124
138
42
202
16
22
150
224
210
34

FIG. 4A

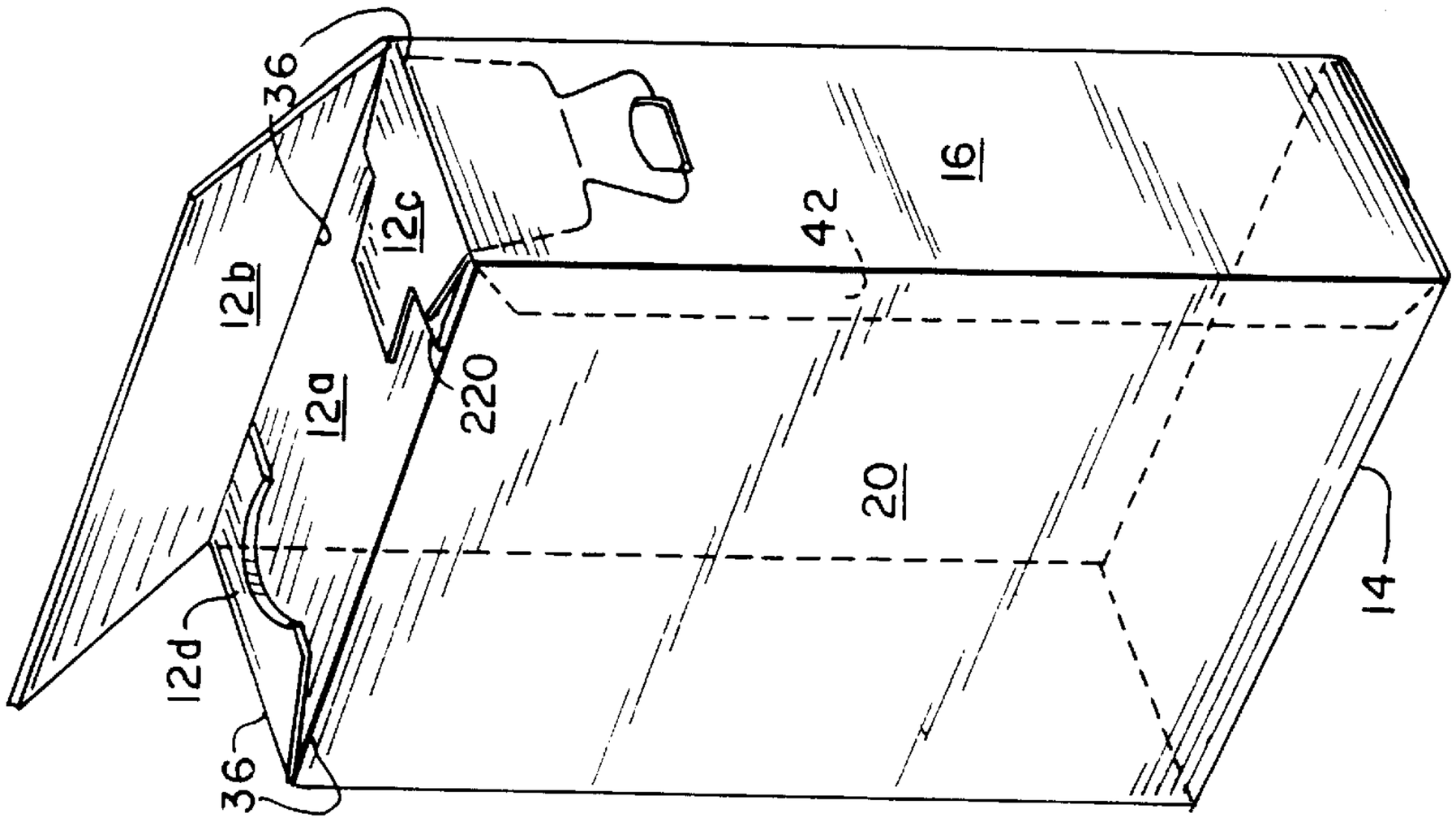
36
12c
12b
12a
12d
36
42
16
220
20
14

FIG. 6

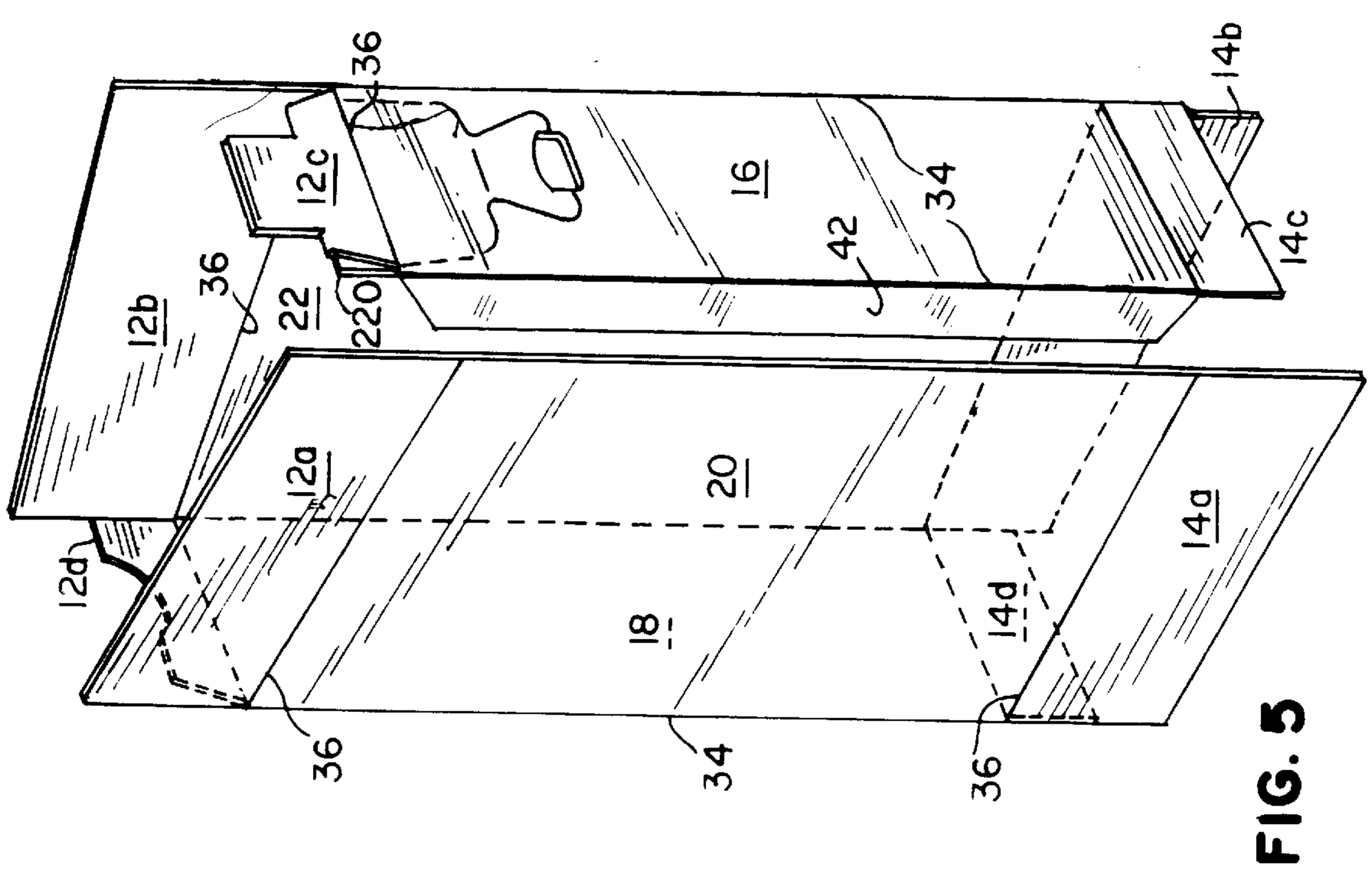
36
12c
12b
36
22
220
16
42
34
14b
14c
12a
20
12d
18
14d
14a
6
34
36

FIG. 5

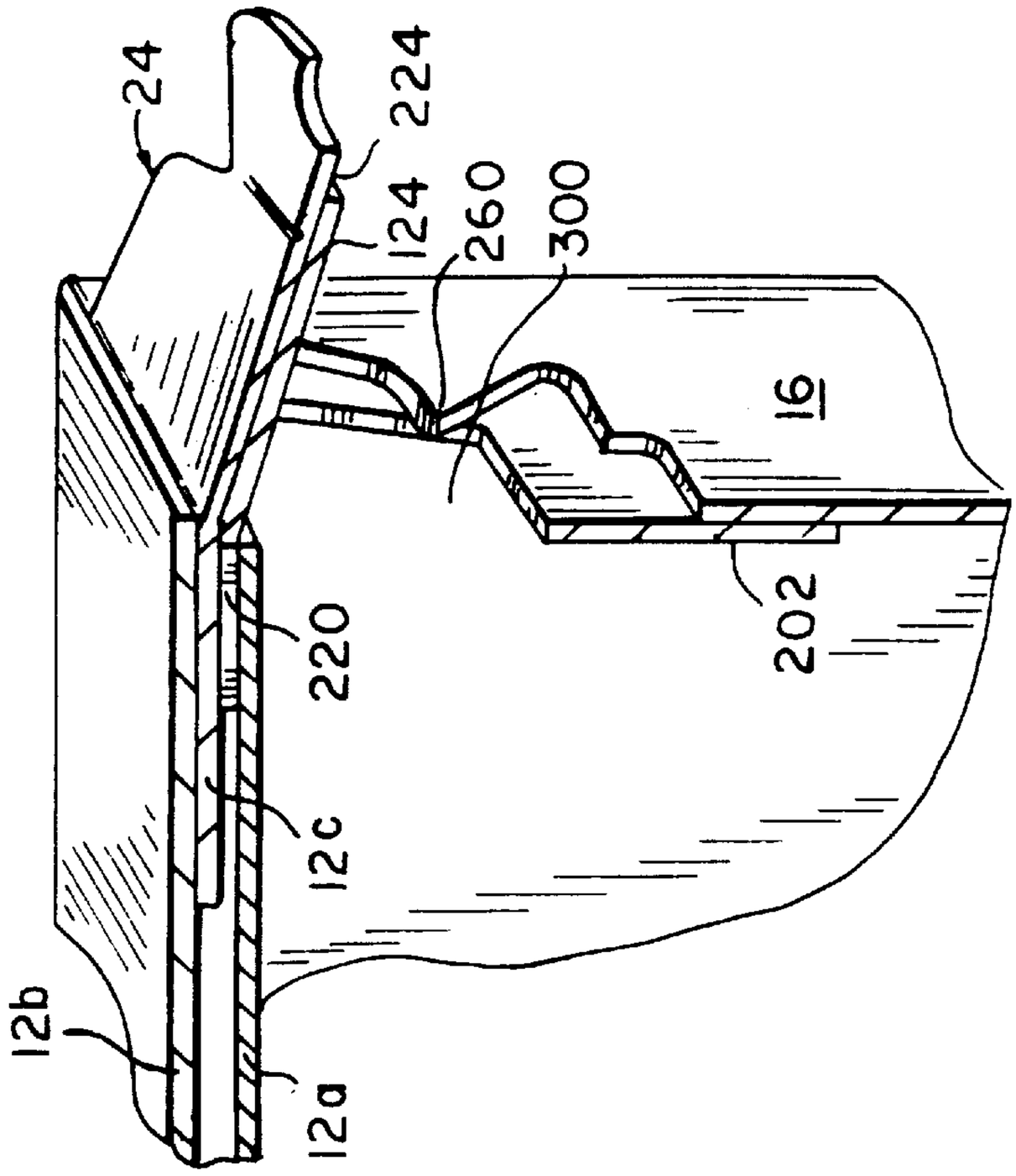
24
224
124
260
300
16
202
220
12c
12b
12a

FIG. 8

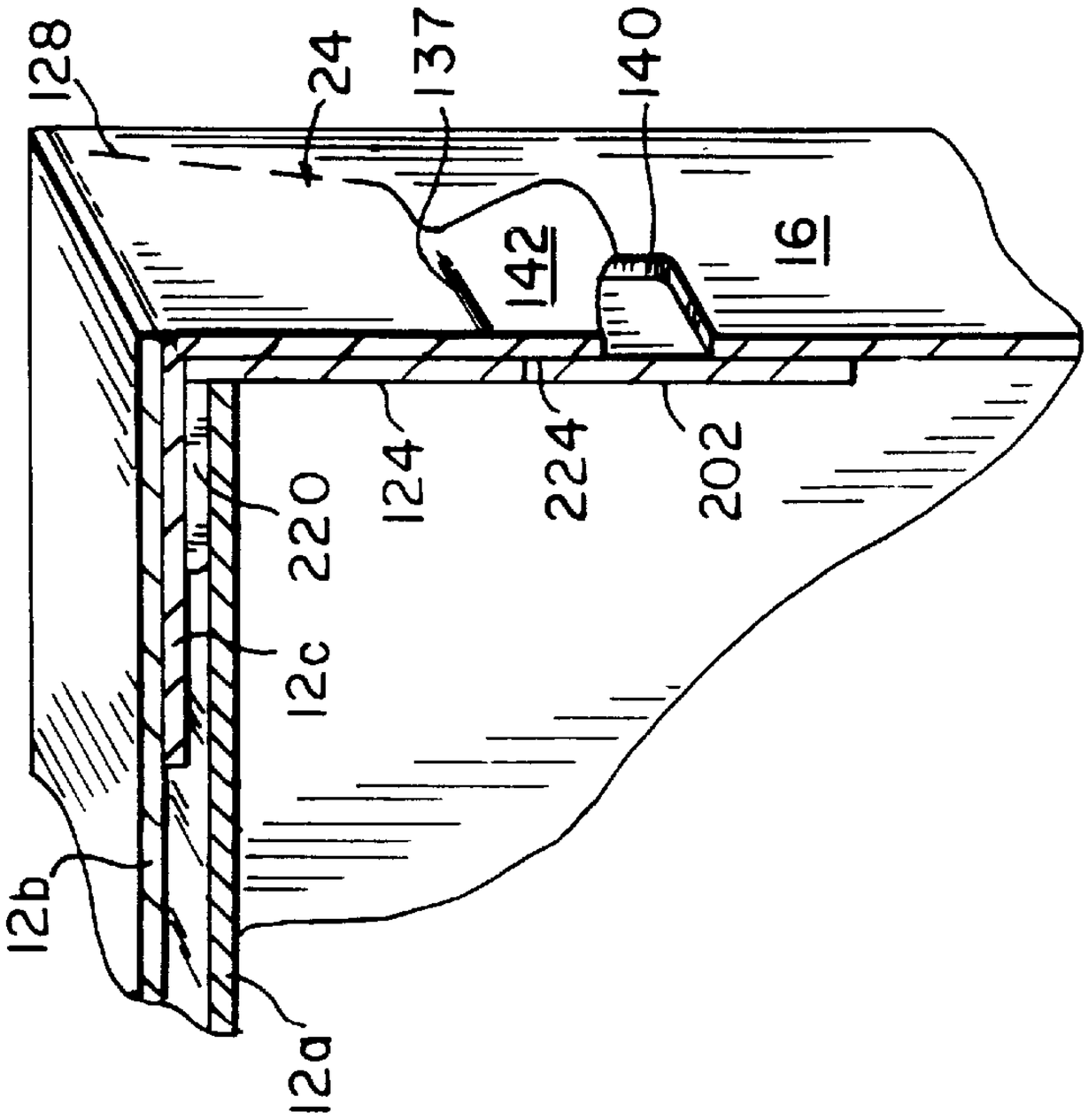
128
24
137
140
142
16
124
224
202
220
12c
12b
12a

FIG. 7

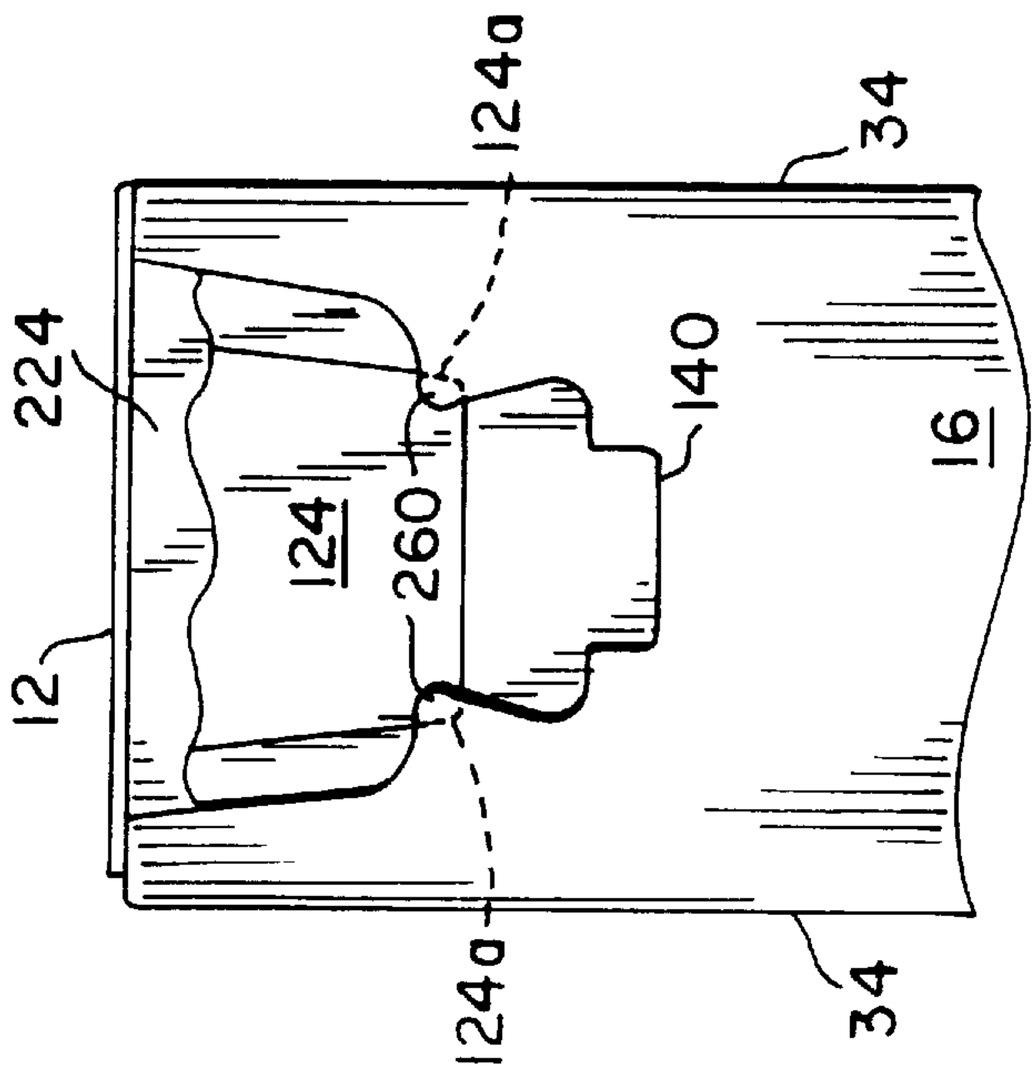
124a
34
224
140
16
124
260
12
124a
34

FIG. 10

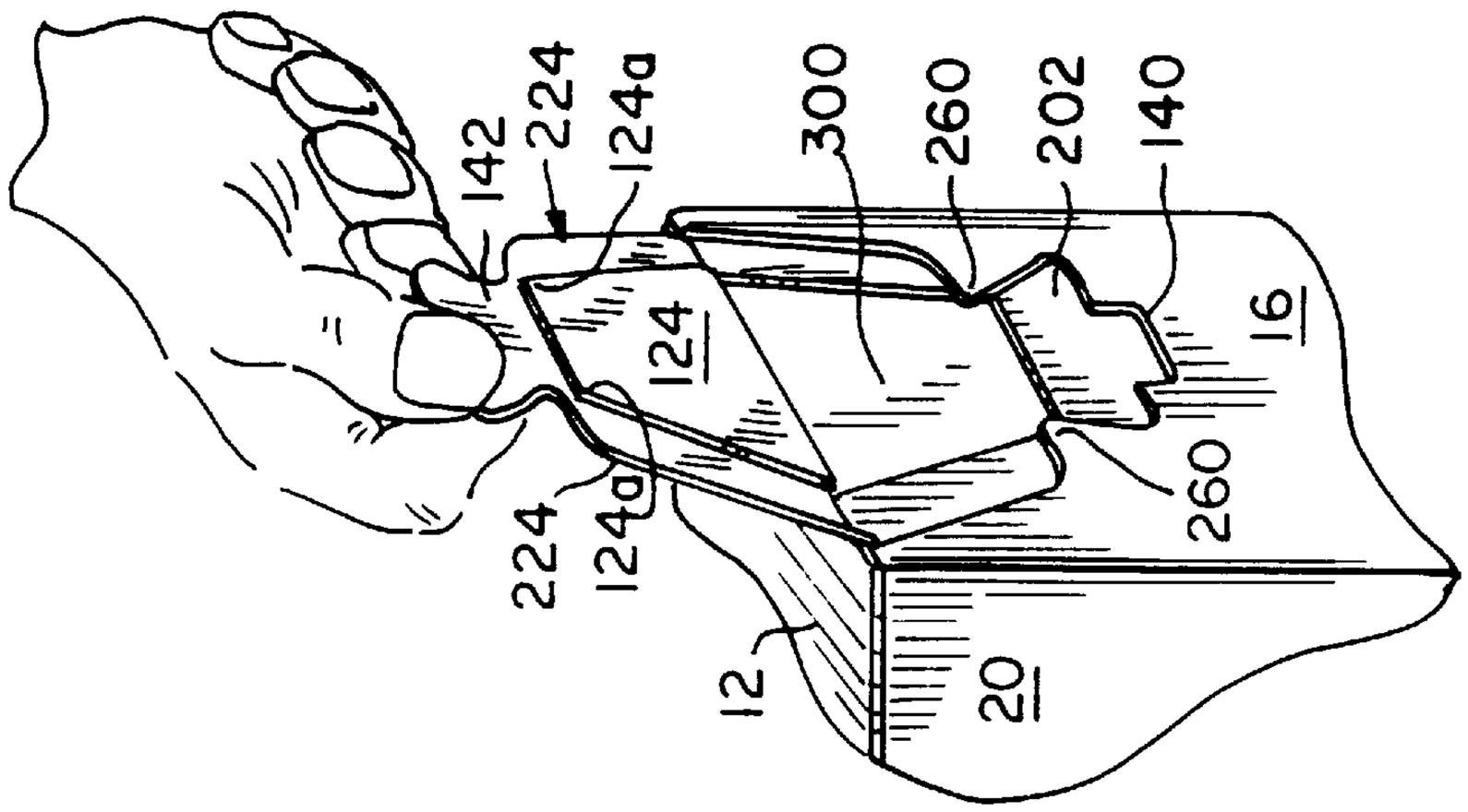
142
224
124a
300
260
202
140
124
16
224
124a
260
12
20

FIG. 9

NON-DIRECTIONAL PAPERBOARD POUR SPOUT

FIELD OF THE INVENTION

The present invention relates generally to paperboard containers and, more particularly, relates to a paperboard container having an integrally formed non-directional paperboard pour spout.

BACKGROUND OF THE INVENTION

Pour spouts are employed on containers to dispense various types of products, including, but not limited to, granular products (e.g., pet litter, laundry detergent, dishwashing detergent, etc.), baking supplies (e.g., flour, pancake mix, sugar, etc.), rice, cereal, dry pet food, and gun pellets. Although metal and plastic pour spouts have been applied to containers for many years, the application of such metal and plastic spouts is costly because the spouts require special and expensive application equipment and cause decreased assembly line efficiencies.

In order to reduce the costs associated with the application of pour spouts to containers, pour spouts composed of paperboard have been introduced to the marketplace in recent years. Heretofore, the effectiveness of such paperboard pour spouts has been limited by such problems as lack of durability, the absence of tactile or audible feedback indicative of positive reclosure, lack of positive recloseability, lack of size to provide adequate pouring, the inability to prevent spillage or sifting of the contents of the container in the area of the pour spout, and the inability to prevent the pour spout from being pushed too far into a package which makes opening more difficult the following time. In addition, paperboard pour spouts have been fairly costly due to their use of excessive amounts of paperboard, thereby making some designs cost prohibitive.

Accordingly, a need exists for a paperboard pour spout which overcomes the above-noted shortcomings associated with existing pour spouts.

SUMMARY OF THE INVENTION

In one particular embodiment of the present invention, a paperboard container composed of a unitary, continuous blank, comprises opposing top and bottom walls, a plurality of side walls bridging the top and bottom walls, and a non-directional paperboard pour spout closure. The plurality of side walls includes a first side wall having upper and lower ends. An top minor flap extends from the upper end of the first side wall, and the top minor flap forms a portion of the top wall. A backboard is coupled to the top minor flap and includes a plug. An inner surface of the backboard is preferably adhered to an inner surface of the first side wall. An outer closure layer is formed in the first side wall and is adhered to the plug. The outer closure layer and the plug form a pour spout closure. The pour spout closure is pivotally coupled to the first side wall for movement between a closed position and an open position.

The plug is linked to a remainder of said backboard when the pour spout closure is initially in the closed position. The plug is detached from the remainder of the backboard and leaves behind a hole in response to moving the pour spout closure from the closed to the open position. The plug is inserted into the hole in response to moving the pour spout closure from the open to the closed position. The first side wall forms at least one prong adjacent to the closure layer.

The prong engages the plug in response to moving the pour spout closure from the open to the closed position.

BRIEF DESCRIPTION OF THE DRAWINGS

Other objects and advantages of the invention will become apparent upon reading the following detailed description and upon reference to the drawings in which:

FIG. **1** is a perspective view of a paperboard container embodying the present invention showing a non-directional paperboard pour spout in a closed position;

FIG. **2***a* is a plan view of an inside surface of a unitary, continuous blank used to form the paperboard container in FIG. **1**;

FIG. **2***b* is a plan view of an inside surface of a unitary, continuous blank according to another embodiment;

FIG. **3***a* is an enlarged plan view of a pour spout forming portion of the blank in FIG. **2***a;*

FIG. **3***b* is an enlarged plan view of a pour spout forming portion of the blank in FIG. **2***b;*

FIG. **4***a* is an enlarged partial interior isometric view showing the pour spout closure formed from the pour spout forming portion in FIG. **3***a;*

FIG. **4***b* is an enlarged partial interior isometric view showing the pour spout closure formed from the pour spout forming portion in FIG. **3***b;*

FIG. **5** is a perspective view showing the blank in FIG. **2***a* being folded into a tubular form after forming the pour spout closure;

FIG. **6** is a perspective view showing the top closure flaps being folded to form the top wall of the paperboard container in FIG. **1**;

FIG. **7** is a partial isometric cross-sectional view of the paperboard container in FIG. **1** showing the non-directional paperboard pour spout in the closed position as viewed from the exterior of the container;

FIG. **8** is a partial isometric cross-sectional view of the paperboard container in FIG. **1** showing the non-directional paperboard pour spout in the open position;

FIG. **9** is a partial isometric view of the paperboard container in FIG. **1** showing a human hand opening the non-directional paperboard pour spout; and

FIG. **10** is a front view of a side wall of the paperboard container in FIG. **1** showing the non-directional pour spout in the closed position.

While the invention is susceptible to various modifications and alternative forms, a specific embodiment thereof has been shown by way of example in the drawings and will herein be described in detail. It should be understood, however, that it is not intended to limit the invention to the particular forms disclosed, but on the contrary, the intention is to cover all modifications, equivalents, and alternatives falling within the spirit and scope of the invention as defined by the appended claims.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Turning now to the drawings, FIG. **1** illustrates a paperboard container **10** formed from a unitary, continuous blank. The container **10** includes opposing top and bottom walls **12** and **14**, four side walls **16**, **18**, **20** and **22** bridging the top and bottom walls **12** and **14**, and a pour spout closure **24**. The pour spout closure **24** is pivotally mounted to the side wall **16** for movement between a closed position (FIGS. **1**, **7** and **10**) and an open position (FIGS. **8** and **9**).

FIGS. **2***a* and **2***b* are plan views of inside surfaces of unitary, continuous blanks that can form the paperboard container **10** in FIG. **1**. The unitary, continuous blanks depicted in FIGS. **2***a* and **2***b* differ primarily in their respective locations of glue flap **42** relative to the side wall **16** and the pour spout closure **24**. The blank depicted in FIG. **2***a* has the glue flap **42** hingedly connected to the side wall **16**, while the blank in FIG. **2***b* has the glue flap **42** hingedly connected to the side wall **22**. Identical reference numerals are used in FIGS. **1**, **2***a* and **2***b*, as well as the remaining figures, to indicate corresponding portions of the blank and the paperboard container **10**. The sheet of paperboard from which the blank is cut preferably has a thickness in a range of from about 0.014 inches to about 0.026 inches. As viewed in FIGS. **2***a* and **2***b*, the blank includes four side wall panels **16**, **18**, **20** and **22** hingedly connected to each other along generally vertical fold lines **34**. These side wall panels form the respective side walls of the paperboard container **10** in FIG. **1**.

A plurality of top and bottom closure flaps are hingedly connected to opposing upper and lower edges of the side wall panels **16**, **18**, **20** and **22** along generally horizontal fold lines **36**. In particular, top major flaps **12***a* and **12***b* are hingedly connected to the upper edges of the respective side walls **20** and **22**, and top minor flaps **12***c* and **12***d* are hingedly connected to the upper edges of the respective side walls **16** and **18**. The top closure flaps **12***a*, **12***b*, **12***c* and **12***d* fold as shown in FIG. **6** to form the top wall **12** of the paperboard container **10**. Similarly, bottom major flaps **14***a* and **14***b* are hingedly connected to the lower edges of the respective side walls **20** and **22**, and bottom minor flaps **14***c* and **14***d* are hingedly connected to the lower edges of the respective side walls **16** and **18**. The bottom closure flaps **14***a*, **14***b*, **14***c* and **14***d* fold in conventional fashion to form the bottom wall **14** of the paperboard container **10**. As depicted in FIG. **2***a*, major flap **14***b* may be cut away at regions **15** to facilitate stripping. As depicted in FIG. **2***b*, major flaps **14***a* and **14***b* may be cut away at regions **15** to facilitate stripping.

Referring to FIGs, **2***a*, **2***b*, **3***a* and **3***b*, the blank includes a reinforcing body panel or backboard **202** coupled to the minor flap **12***c*. A portion of the backboard **202** forms the pour spout closure **24** of the paperboard container **10** in FIG. **1**. The backboard **202** includes a paperboard plug **124** and a generally inverted U-shaped section **138**. Paperboard plug **124** is detachably linked to the inverted U-shaped section **138** of the backboard **202** by die-cut lines **126**. Die-cut lines **126** contain weakening "nicks" whereby the paperboard plug **124** can be easily separated from the inverted U-shaped section **138**. To regulate the amount of force required to break plug **124** free from section **138**, the weakening nicks can be varied in size, shape, position and number. These weakening nicks also regulate the amount of "hold" that plug **124** will have upon section **138** when the plug **124** is reinserted to a closed position. The plug **124** may contain a cutout area **125** to assist in the form-fill-seal process as depicted in FIGS. **3***a* and **3***b*. The section **138** is hingedly connected to connector panels **220** via horizontal score lines **150**. Horizontal score lines **150** may be manufactured with cuts therein to facilitate positive folding. The connector panels **220** are hingedly connected to the minor flap **12***c* by tandem fold lines **152**.

As viewed in FIGS. **2***a*, **2***b*, **3***a*, and **3***b*, the backboard **202** extends upwardly from the connector panels **220** and the minor flap **12***c*. Backboard **202** is separated from the minor flap **12***c* via one side of an inverted U-shaped cutout **204**. Cutout **204** is formed between the backboard **202** and the minor flap **12***c* to facilitate the folding step depicted in FIGS. **4***a* and **4***b*. An upward extension **208** of the minor flap **12***c* located beneath cutout **204** provides an additional surface area to which adhesive may be applied when sealing the top wall **12** of the container **10**. It is contemplated that portions of the minor flap **12***c* may be cut away to assist in non-standard folding and gluing of the top flaps on form-fill-seal equipment.

The formation of the backboard **202** by its connection to the top minor flap **12***c* is advantageous because it minimizes the amount of paperboard required to form the pour spout closure **24**. This paperboard minimization in turn reduces the cost of manufacturing the container **10** of FIG. **1**. During the manufacture of the paperboard container **10**, several paperboard blanks are simultaneously formed adjacent to one another from a sheet of paperboard. For example, the paperboard blank in FIG. **2***a* is formed adjacent to a second identical blank which is positioned above (or below) the blank in FIG. **2***a*. If this second identical blank is positioned above the blank in FIG. **2***a*, the lowermost edges of the bottom major flaps of the second blank (akin to flaps **14***a* and **14***b*) are immediately adjacent to the uppermost edges of the top major flaps **12***a* and **12***b* of the blank in FIG. **2***a*.

To minimize the amount of paperboard scrap generated by die-cutting a sheet of paperboard into multiple adjacent blanks, it is desirable for portions of one blank to nest with portions of an adjacent blank. Such nesting occurs when the second identical blank described above is formed immediately above the blank in FIG. **2***a*. Specifically, the backboard **202** is nested within a rectangular area unoccupied by the second blank. This unoccupied rectangular area is akin to the rectangular area immediately below the bottom minor flap **14***c* in FIG. **2***a*. The reduction in paperboard scrap resulting from the nesting of adjacent blanks decreases the cost of manufacturing the paperboard container **10**.

Referring to FIGS. **2***a*, **2***b*, **3***a* and **3***b*, a pour spout closure layer **224** is formed in first side wall **16** and extends downwardly from the fold line **36** located beneath the minor flap **12***c*. A top edge of the closure layer **224** is hingedly connected to the above described fold line **36**. The combination of the closure layer **224** and plug **124** comprises the pour spout closure **24**.

As depicted best in FIGS. **3***a* and **3***b*, two sides of the closure layer **224** extend downwardly from the fold line **36** and taper slightly inwardly until reaching a horizontal fold line **137**. Upon reaching the horizontal fold line **137**, the two sides of the closure layer **224** proceed to taper slightly outward. The shape of one side of the closure layer **224** results in a formation of one nipple or prong **260** in the first side wall **16** adjacent to the closure layer **224**. As discussed in more detail below, the prongs **260** are sized to assist in retaining the pour spout closure **24** in a closed position (see FIG. **10**). A bottom side of the closure layer **224** is formed in the side wall **16** when the two sides generally flatten out horizontally at point **230**. The prongs **260**, as depicted in FIGS. **7–10**, are located near a bottom side of the plug **124** when the pour spout closure **24** is in the closed position. However, the prongs **260** may be located in other positions relative to the plug **124**, as long as the prongs **260** assist in retaining the plug **124** in covering of an opening or hole **300** (see FIGS. **7–10**). It is contemplated that the sides of the closure layer **224** may be of various shapes.

The closure layer **224** is initially connected to a remainder of the side wall **16** by two die-cut lines **128**. Die-cut lines **128** may contain weakening "nicks" whereby the closure layer **224** can be easily separated from the remainder of the

side wall **16**. As depicted best in FIGS. **3***a* and **3***b,* the horizontal fold line **137** bridges the two die-cuts **128** at a point of the prongs **260**. Horizontal fold line **137** assists in reinserting the plug **124** into the opening **300**. A moon-shaped cutout **140** is formed in the side wall **16** and is adjacent to a grab tab **142** of the closure layer **224** in FIGS. **3***a* and **3***b*. Cutout **140** assists a consumer in easily grasping a bottom end of the grab tab **142**. The grab tab **142** (as depicted in FIG. **9**) assists the consumer in opening and closing the pour spout closure **24**.

After the blank is formed, the blank is folded and glued to form the paperboard container **10**. As depicted in FIGS. **2***a, 2b,* **3***a* and **3***b,* the U-shaped section **138** has a foot or extension **210** located near a top end thereof The foot **210** assists in aligning the plug **124** with its counterpart, the pour spout closure layer **224**, during the folding sequence. When the backboard **202** is folded about 180 degrees inwardly relative to the first side wall **16** (see FIGS. **4***a* and **4***b*), a left edge of the foot **210** will initially be located on or slightly to the left of the vertical fold line **34** connecting the side wall panels **16** and **22**. To assist in locating the foot **210** as described above, the tandem fold lines **152** may be slightly skewed. The foot **210** will be located in its final position (see FIGS. **4***a* and **4***b*) when the side wall **22** is folded approximately 90 degrees inwardly relative to the first side wall **16** during the formation of the rectangular, tubular body (see FIGS. **5** and **6**). The above described folding of the side wall **22** will move the foot **210** to the right of vertical fold line **34** to its final position (see FIGS. **4***a* and **4***b*) before the adhesive is set. At its final position, the plug **124** is aligned with its counterpart, pour spout layer **224**. It is contemplated that the foot **210** may be formed at other locations of section **138** so as to assist in aligning the plug **124** with the pour spout closure layer **224**. Other folding sequences are contemplated with different blanks to align the plug **124** with the pour spout closure layer **224** and at least one prong **260**. One example is a backboard (which includes a closure layer) being folded about 180 degrees outwardly relative to a side wall (which includes a detachable plug) so that the closure layer and plug are aligned relative to at least one prong.

FIGS. **4***a* and **4***b* depict the pour spout closure **24** formed from the pour spout forming portions depicted in FIGS. **3***a* and **3***b,* respectively. In the description below, the "inner surface" of a particular element refers to the portion of the inside surface of the blanks in FIGS. **2***a* and **2***b* that contains that element. To realize the pour spout closure **24** in FIGS. **4***a* and **4***b,* the backboard **202** is folded downwardly and inwardly by about 180 degrees along fold lines **152** relative to the side wall **16**. The inner surface of the section **138** of the backboard **202** is adhered to the inner surface of the side wall **16**, and the inner surface of the closure layer **224** (hidden in FIGS. **4***a* and **4***b*) is adhered to the inner surface of the plug **124**. The horizontal score lines **150** are preferably aligned with horizontal fold line **36** in order to facilitate the forming of the top wall **12**. To prevent spillage or sifting, the inner surface of the backboard **202**, when folded, extends downwardly as shown in FIGS. **4***a* and **4***b* so as to cover the cutout **140**.

After folding and gluing the backboard **202** as depicted in FIGS. **4***a* and **4***b,* the blank is folded and glued in conventional fashion to form the paperboard container **10**. Referring to FIG. **5**, adhesive is applied to an outer surface of the glue flap **42**. Next, the blank is folded about the vertical fold lines **34** to adhere the outer surface of the glue flap **42** to the inner surface of the side wall panel **20** along its free vertical edge. After the glue flap **42** is adhered to the side wall panel **20**, the blank is in tubular form with open top and bottom ends.

Typically, the blank in tubular form is flattened (not shown) to permit stacking of the blank in a case along with other identical flattened blanks by hand or by using high-speed case packing equipment. After the case is shipped to a customer for form-fill-seal operations, the blank in flattened tubular form is stacked once again with other such blanks in the hopper of the form-fill-seal equipment. The hopper of the form-fill-seal equipment delivers the flattened tubular blank to a machine which erects the flattened blank into a rectangular body with open top and bottom ends. One of the open ends is then sealed by appropriately folding and gluing the major and minor flaps of that end. For example, to realize the sealed bottom wall **14** in FIG. **6**, the major and minor flaps of that bottom wall are appropriately folded and glued.

After sealing one end (e.g., the bottom end) of the paperboard container **10**, the form-fill-seal equipment fills the container with a product via the open end (e.g., the top end) of the container. Referring to FIG. **6**, the filled container is then sealed by appropriately folding and gluing the top major and minor flaps. In one embodiment, the top major flap **12***a* is first folded inward about the associated fold line **36** so that it is substantially perpendicular to the side wall **20**. As depicted in FIG. **6**, connector panels **220** and the minor flap **12***c* are folded inward along respective tandem fold lines **150** and fold line **36** so that they are substantially perpendicular to side wall **16**. The outer surfaces of connector panels **220** cover a part of the minor flap **12***c* and forms a part of the top wall **12**.

Next, the top major flap **12***b* is folded inward approximately 90 degrees about the associated fold line **36**. The inner surface of the folded top major flap **12***b* is adhered to the outer surfaces of the flaps **12***a,* **12***c,* and **12***d,* thereby sealing the top wall **12** as depicted in FIG. **1**. Other folding sequences are contemplated for sealing the top and bottom walls **12** and **14** of the container **10**.

The pour spout closure **24** will now be described in detail with reference to FIGS. **1** and **7–10**. Referring first to FIGS. **1** and **7**, there is shown the non-directional pour spout closure **24** in its closed position. Prior to initially opening the pour spout closure **24**, the narrow strip of paperboard encompassed by the die-cut lines **128** with weakening nicks is still intact. Since the container **10** is sift resistant (i.e. no gaps or spaces in which the contents of the container may escape), it is not necessary to adhere a peelable label to the side wall **16**.

To initially open the pour spout closure **24**, a user inserts his or her finger(s) into the cutout **140**, engages the grab tab **142** of the closure layer **224**, and pulls outwardly on the closure layer **224**. In response to the application of a sufficient amount of opening force, the plug **124** and closure layer **224** are forced open. Since the inner surface of the closure layer **224** is adhered to the plug **124**, the closure layer **224** and the plug **124** move in tandem with each other. During this opening process, the closure layer **224** breaks free from the surrounding portions of the side wall **16** and, at the same time, the plug **124** breaks free from the surrounding portions of the backboard **202**. The plug **124** is then forced through the interfering prongs **260**, and the pour spout closure **24** is moved to the open position. (see FIGS. **8** and **9**)

After the user dispenses the desired amount of contents from the container **10**, the pour spout closure **24** is reclosed to the closed position shown in FIGS. **10** by pushing inwardly on the outer surface of the closure layer **224**. To prevent the pour spout closure **24** from collapsing into the

container **10** upon reclosure, the closure layer **224** is cut offset from the backboard **202** as depicted in FIGS. **8** and **9**. Additionally, this offset cut between the closure layer **224** and the backboard **202** enhances the sift resistance of the container **10**.

When moving the pour spout closure **24** to the closed position, the plug **124** is forced past the interfering prongs **260** and inserted into the opening **300** that was left behind by the plug **124** when the pour spout closure **24** was initially opened (see FIG. **10**). More specifically, the periphery of the plug **124** "snaps" past the prongs **260**, and the plug **124** is frictionally engaged inside the opening **300**. As depicted in FIG. **10** with the pour spout layer **224** cut away, portions **124***a* of the plug **124** are covered by the interfering prongs **260** when the pour spout closure **24** is in the closed position. In order to extend the plug **124** further into the opening **300**, the closure layer **224** may be provided with a debossment or indentation (not shown) in an area to which the plug **124** is attached. Details concerning the use of debossments on paperboard containers are disclosed in U.S. Pat. No. 5,439,133, which is incorporated herein by reference.

The snap re-engagement of the plug **124** provides tactile and audible feedback indicative of effective reclosure of the pour spout closure **24**. It has been determined in this regard that the presence of such tactile and audible feedback indicative of effective locking is desirable because the presence thereof provides users with a high "comfort" factor with respect to reclosure. Particularly in applications where the pour spout closure **24** of the container **10** has been initially opened with a product having a restricted storage life, such positive feedback has been determined to provide an apparent sense of reassurance to users as to retention of "freshness", "safety", or scent of the contained product.

As shown with FIG. **4**, the backboard **202** substantially overlaps and is adhered to an inner surface of the side wall **16**. Therefore, as the pour spout closure **24** is pivoted between the closed position and the open position (see FIGS. **7** and **8**), the closure panel **224** and plug **124** move in tandem with each other. The overlapping layers of paperboard provided by the closure panel **224** and backboard **202** enhance the durability of the pour spout closure **24**, thereby allowing the closure **24** to be repeatedly opened and closed without sustaining damage.

While the present invention has been described with reference to one or more particular embodiments, those skilled in the art will recognize that many changes may be made thereto without departing from the spirit and scope of the present invention. Each of these embodiments and obvious variations thereof is contemplated as falling within the spirit and scope of the claimed invention, which is set forth in the following claims.

What is claimed is:

1. A paperboard container composed of a unitary, continuous blank, comprising:

opposing top and bottom walls and a plurality of side walls bridging said top and bottom walls, said plurality of side walls including a first side wall having upper and lower ends;

an top minor flap extending from said upper end of said first side wall, said top minor flap forming a portion of said top wall;

a backboard coupled to said top minor flap and including a plug; and

an outer closure layer formed in said first side wall and being adhered to said plug, said closure layer and said plug forming a pour spout closure, said pour spout closure being pivotally coupled to said first side wall for movement between a closed position and an open position, said plug being detachably linked to a remainder of said backboard such that said plug is linked to said backboard when said pour spout closure is initially in said closed position, said plug is detached from said remainder of said backboard and leaves behind a hole in response to moving said pour spout closure from said closed position to said open position, and said plug is inserted into said hole in response to moving said pour spout closure from said open position to said closed position, said first side wall forming at least one prong adjacent to said closure layer, said at least one prong engaging said plug in response to moving said pour spout closure from said open position to said closed position.

2. The paperboard container of claim **1** wherein said backboard further includes a foot to assist in aligning said plug with said outer closure layer.

3. The paperboard container of claim **1** wherein said plug is initially linked to said remainder of said backboard by weakening nicks.

4. The paperboard container of claim **1** wherein said remainder of said backboard has a generally inverted U-shape.

5. The paperboard container of claim **1** wherein said closure layer at least partially overlaps said remainder of said backboard to prevent said pour spout closure from being pushed into an interior of said container.

6. The paperboard container of claim **1** wherein said closure layer includes a grab tab for assisting in the movement of said pour spout closure between said closed and open positions.

7. The paperboard container of claim **6** wherein a cutout is formed in said first side wall adjacent to said grab tab to assist a consumer in grasping said grab tab.

8. The paperboard container of claim **1** wherein said at least one prong in the first side wall is exactly two prongs.

9. The paperboard container of claim **1** wherein at least one connector panel is hingedly connected to said backboard and said top minor flap, said at least one connector panel forming a part of said top wall.

10. A paperboard container composed of a unitary, continuous blank, comprising:

opposing top and bottom walls and a plurality of side walls bridging said top and bottom walls, said plurality of side walls including a first side wall having upper and lower ends and inner and outer surfaces;

an top minor flap extending from said upper end of said first side wall, said top minor flap forming a portion of said top wall;

a backboard coupled to said top minor flap, said backboard including a plug and having inner and outer surfaces, said inner surface of said backboard being adhered to said inner surface of said first side wall; and

a closure layer formed in said first side wall and having inner and outer surfaces, said inner surface of said closure layer being adhered to said plug, said closure layer and said plug forming a pour spout closure, said pour spout closure being pivotally coupled to said first side wall for movement between a closed position and an open position, said plug being detachably linked to a remainder of said backboard such that said plug is linked to said backboard when said pour spout closure is initially in said closed position, said plug is detached from said remainder of said backboard and leaves behind a hole in response to moving said pour spout

closure from said closed position to said open position, and said plug is inserted into said hole in response to moving said pour spout closure from said open position to said closed position.

11. The paperboard container of claim **10** wherein said first side wall forms at least one prong adjacent to said closure layer.

12. The paperboard container of claim **11** wherein said at least one prong engages said plug in response to moving said pour spout closure from said open position to said closed position.

13. The paperboard container of claim **10** wherein said backboard further includes a foot to assist in aligning said plug with said outer closure layer.

14. The paperboard container of claim **10** wherein said plug is initially linked to said remainder of said backboard by weakening nicks.

15. The paperboard container of claim **10** wherein said remainder of said backboard has a generally inverted U-shape.

16. The paperboard container of claim **10** wherein said closure layer at least partially overlaps said remainder of said backboard to prevent said pour spout closure from being pushed into an interior of the container.

17. The paperboard container of claim **10** wherein said closure layer includes a grab tab for assisting in the movement of said pour spout closure between the closed and open positions.

18. The paperboard container of claim **17** wherein a cutout is formed in said first side wall adjacent to said grab tab to assist a consumer in grasping said grab tab.

19. The paperboard container of claim **11** wherein said at least one prong in the first side wall is exactly two prongs.

20. The paperboard container of claim **10** wherein at least one connector panel is hingedly connected to said backboard and said top minor flap, said at least one connector panel forming a part of said top wall.

21. A method of forming a pour spout closure in a paperboard container composed of a unitary, continuous blank, said container having opposing top and bottom walls and a plurality of side walls bridging said top and bottom walls, said plurality of side walls including a first side wall having upper and lower ends, said method comprising the steps of:

providing an top minor flap extending from said upper end of said first side wall;

providing a backboard coupled to said top minor flap, said backboard including a detachable plug and having inner and outer surfaces;

forming a closure layer in said first side wall, said closure layer having inner and outer surfaces;

folding said backboard inwardly toward an interior of said container;

adhering said inner surface of said backboard to said inner surface of said first side wall; and

adhering said inner surface of said closure layer to said plug, said closure layer and said plug forming said pour spout closure.

22. The method of claim **21**, wherein said pour spout closure is pivotally coupled to said first side wall for movement between a closed position and an open position, said detachable plug being linked to a remainder of said backboard such that said plug is linked to said backboard when said pour spout closure is initially in said closed position, said plug is detached from said remainder of said backboard and leaves behind a hole in response to moving said pour spout closure from said closed position to said open position, and said plug is inserted into said hole in response to moving said pour spout closure from said open position to said closed position.

23. The method of claim **21**, wherein said step of folding said backboard further includes folding said backboard approximately 180 degrees relative to said first side wall.

24. The method of claim **22**, further including the step of forming at least one prong in said first side wall adjacent to said closure layer, said at least one prong engaging said plug in response to moving said pour spout closure from said open position to said closed position.

25. A method of forming a pour spout closure in a paperboard container composed of a unitary, continuous blank, said container having opposing top and bottom walls and a plurality of side walls bridging said top and bottom walls, said plurality of side walls including a first side wall having upper and lower ends, said method comprising the steps of:

providing an top minor flap extending from said upper end of said first side wall;

providing a backboard coupled to said top minor flap and including a detachable plug;

forming a closure layer in said first side wall;

folding and adhering said backboard to said first side wall;

adhering said closure layer to said plug, said closure layer and said plug forming a pour spout closure, said pour spout closure pivotally coupled to said first side wall for movement between a closed position and an open position; and

forming at least prong in said first side wall adjacent to said closure layer, said at least one prong engaging said plug in response to moving said pour spout closure from said open position to said closed position.

26. The method of claim **25** wherein said step of folding and adhering said backboard includes folding said backboard approximately 180 degrees relative to said first side wall.

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